

Nature, technological and ethical action*: paths for environmental education since Hans Jonas

Natureza, ação tecnológica e ética: caminhos para uma educação ambiental desde Hans Jonas

Naturaleza, acción tecnológica y ética: caminos para una educación ambiental desde Hans Jonas

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Abstract

Making environmental issues fundamentally necessary and urgent in these times and tropics, times of massive use – in the last two centuries and especially after World War II – of production technologies, means requiring the existential minimum, i.e., reasonable conditions for good quality of life. The purpose of this paper is twofold: on the one hand, we intend to present the philosophical contribution of Hans Jonas to the ecological issue, on the other hand, we would like to highlight how precisely from this reflection it is possible to acquire adequate awareness, from the promotion of environmental education, environmental risks linked to technological and economic developments. First, we analyze Jonas's contribution to the redefinition of the concept of nature. Secondly, we try to clarify in what terms and with what consequences, according to Jonas, human nature occupies a central place in the global revision of the concept of nature and manifests itself in terms of a fundamental ethical principle. Finally, let us try to explain what consequences this entails for the protection of the integral ecology.

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Resumo

Tornar as questões ambientais fundamentalmente necessárias e urgentes nestes tempos e trópicos, tempos de uso massivo – nos últimos dois séculos e especialmente pós-Segunda Guerra Mundial – das tecnologias de produção, significa requerer o mínimo existencial, ou seja, condições razoáveis para uma boa qualidade de vida. O objetivo deste artigo é duplo: por um lado, pretendemos apresentar a contribuição filosófica de Hans Jonas à questão ecológica; por outro, gostaríamos de destacar como, justamente a partir dessa reflexão, é possível adquirir uma conscientização adequada – desde a promoção de uma educação ambiental – dos riscos ambientais ligados aos desenvolvimentos tecnológico e econômico. Primeiramente, analisamos a contribuição de Jonas para a redefinição do conceito de natureza. Em segundo lugar, procuramos esclarecer em que termos e com que consequências, segundo Jonas, a natureza humana ocupa um lugar central na revisão global do conceito de natureza e manifesta-se em termos de um princípio ético fundamental. Por fim, tentamos explicar quais as consequências daí decorrentes para a proteção da ecologia inteira.

Palavras-chave: Natureza. Hans Jonas. Tecnologia. Crítica.

Resumen

Hacer fundamentalmente necesarias y urgentes las cuestiones ambientales en estos tiempos y trópicos, tiempos de uso masivo – en los últimos dos siglos y especialmente después de la Segunda Guerra Mundial – de las tecnologías de producción, significa exigir el mínimo existencial, es decir, condiciones razonables para una buena calidad de vida. El propósito de este artículo es doble: por un lado, pretendemos presentar la contribución filosófica de Hans Jonas a la cuestión ecológica; por otro lado, nos gustaría resaltar cómo, precisamente a partir de esta reflexión, es posible adquirir una adecuada conciencia – desde la promoción de una educación ambiental – de los riesgos ambientales vinculados a los avances tecnológico y económico. En primer lugar, analizamos la contribución de Jonas a la redefinición del concepto de naturaleza. En segundo lugar, tratamos de aclarar en qué términos y con qué consecuencias, según Jonas, la naturaleza humana ocupa un lugar central en la revisión global del concepto de naturaleza y se manifiesta en términos de un principio ético fundamental. Por último, intentamos explicar qué consecuencias conlleva esto para la protección de toda la ecología.

Palabras clave: Naturaleza. Hans Jonas. Tecnología. Crítica.

If we approach nature and the environment without this openness to awe and wonder, if we no longer speak the language of fraternity and beauty in our

relationship with the world, our attitude will be that of masters, consumers, ruthless exploiters, unable to set limits on their immediate needs.

Papa Francisco, *Laudato Si*, p. 11.

When they speak about the forest, these white people often use another word: they call it “environment”. This word is also not ours and until recently we did not know it either. For us, what the white people refer to in this way is what remains of the forest and land that were hurt by their machines. It is what remains of everything they have destroyed so far. I don’t like this word. The earth cannot be split apart as if the forest were just a leftover part. We are inhabitants of this forest, and if it is cut apart this way, we know that we will die with it. I would prefer the white people to talk about “nature” or “ecology” as a whole thing. If we defend the entire forest, it will stay alive.

Davi Kopenawa, *The falling sky*, p. 397.

1 Initial considerations

There is something paradoxically distressing about the above excerpts. Both speak of care and, even more, of care for nature, a *sine qua non* of our existence as human beings. The paradox does not refer to care, but to how each of the authors perceives himself as part of this common whole. In the first one, it is assumed that human beings and nature, as brilliantly and strategically thought of by modern science, are separated by an epistemological hierarchy: the subject is active, sovereign, and controls and dominates nature. Hence the thesis of the need for a (re)approximation, for openness to *contemplatio*, a condition for a non-violent relationship on the part of the subject with nature. In the second, the relationship is aesthetic. Theodor W. Adorno [1903-1969], not infrequently, called this relationship the “remembrance of nature within the subject” (ADORNO; HORKHEIMER, 2002, p. 32). “We are inhabitants of this forest”: to dwell is to become an abode for something and something. In other words, Davi Kopenawa just wants to say that we are human because of nature we are.

Well then, making environmental issues fundamentally necessary and urgent in these times and tropics, times of massive use – in the last two centuries and especially after World War II – of production technologies, means requiring the existential minimum, i.e., reasonable conditions for a good quality of life. From a physical point of view, the state of health of the Earth, very close to what the Indian filmmaker based in the United States Manoj Nellyattu Shyamalan portrayed in his *After Earth* (2013), is compromised: (i) decrease in coverage (ii) depletion of humus in agricultural lands, (iii) the increase in the extension of desert areas, (iv) the scarcity of fresh water, (v) the loss of biodiversity, (vi) the contamination of groundwater,

(vii) the increase in the average temperature of the planet, (viii) the rise in sea level and, finally, (ix) the decrease in the ozone layer over Antarctica.

No! This is not an autophagic, self-destruction process. Man is primarily responsible for most of these phenomena, but it is “successful progress, not failed progress, to be its antithesis. The curse of irresistible progress is irresistible regression” (ADORNO; HORKHEIMER, 2002, p. 28). We are, in this sense, facing a phenomenon not only of the destruction of nature but also of human life itself. This context contributes, according to Morin (2002), to the fragmentation of the whole, or rather, to a consciousness centered on market ethics that separates the human being (consumer) from nature (product). Considering this reality, there is an urgent need for Environmental Education that promotes a new rationality and a new way of seeing the world as a complex ecosystem where everything is interconnected.

As regards the role of philosophical reflection on environmental issues, it has been, and still is, quite ambivalent. If, on the one hand, during the 20th century there was a need to bridge the gap between man and the reality generated by the situation of technological abuse of nature, on the other hand, nature and/or the entire ecology and its conservation were rarely considered philosophically relevant questions. Hans Jonas [1903-1993] not only has the merit of making a reflection on these two instances possible but also of showing their fruitfulness, relying on the European philosophical tradition, reviewed from the lens of Judaism. In our view, the relevance of Jonas’s thinking is not only the strength of his reflections on ethics and environmental issues but above all in the fact that his theses seek to unite, in a very forceful way, the reasons for biocentrism with those for anthropocentrism.

The German philosopher also has the merit of drawing attention to three unavoidable aspects of an ecological shift: (1) politics will have to transform itself in an ecological sense and human responsibility towards nature will have to inspire political decisions, and this to preserve the existence of future generations; (2) the undesired effects of human actions must be anticipated, in order to promote ethical and political attitudes based on precaution, self-limitation, wisdom, moderation, care; and, finally, (3) ecological change also requires that economics be rethought, especially about methods of utilizing inanimate nature and animals.

The purpose of this paper is twofold: on the one hand, we intend to present the philosophical contribution of Hans Jonas to the ecological issue, on the other hand, we would like to highlight how precisely from this reflection it is possible to acquire adequate

awareness, from the promotion of environmental education, environmental risks linked to technological and economic developments. First, we analyze Jonas's contribution to the redefinition of the concept of nature. Secondly, we try to clarify in what terms and with what consequences, according to Jonas, human nature occupies a central place in the global revision of the concept of nature and manifests itself in terms of a fundamental ethical principle. Finally, let us try to explain what consequences this entails for the protection of the integral ecology.

2 Jonas' concept of nature

In *Das Prinzip Leben (The Phenomenon of Life, 2001)*, Jonas shows that nature and ethics, being and having to be are no longer separate, i.e., “a philosophy of mind comprises ethics – and through the continuity of mind with organism and of organism with nature, ethics becomes part of the philosophy of nature” (JONAS, 2001, p. 282). From there, space is opened for a reflection centered not only on rights but on duties, especially on the duty of responsibility. The work in which this and other issues are explicitly thematized is *Das Prinzip Verantwortung (The Imperative of Responsibility, 1984)*, which is part of a broader rethinking of traditional ethics in the face of the dangers and challenges raised, on the one hand, by the ecological crisis and, on the other hand, by progress in the biotechnological field. For Oliveira,

His entire philosophy stems from the realization of an imbalance between the forces of technology developed in recent years and the growing danger they began to represent for all forms of life, through the destruction of their natural habitats. Technology, supported by the excessive use of production machines and the exacerbated consumption of goods and services, supported, therefore, by the exploitation of natural resources in the process of being depleted, mainly by burning fossil fuels, should, according to the philosopher, be treated with care more seriousness, from the point of view of its impacts (OLIVEIRA, 2022, p. 194).

What constitutes a problem is the qualitatively new nature of technological action that opened a new space-time dimension in the field of ethics. The effects of our actions no longer have a range of incidence limited in time and circumscribed in space but become extremely powerful and indefinite. What we do here and now can influence the lives of other human

beings in other places and even mortgage the future of generations. The most important change from the traditional framework is due to the vulnerability of nature. In Jonas's words:

Take, for instance, as the first major change in the inherited picture, the critical vulnerability of nature to man's technological intervention unsuspected before it began to show itself in damage already done. This discovery, whose shock led to the concept and nascent science of ecology, alters the very concept of ourselves as a causal agency in the larger scheme of things. It brings to light, through the effects, that the nature of human action has de facto changed, and that an object of an entirely new order no less than the whole biosphere of the planet has been added to what we must be responsible for because of our power over it. And of what surpassing importance an object, dwarfing all previous objects of active man! Nature as a human responsibility is surely a novum to be pondered in ethical theory (JONAS, 1984, p. 6-7).

It is in the face of the risks of unbridled progress, which directly affect the integrity and universal meaning of life's earthly adventure, that human beings are invited to exercise their will to power over themselves, as well as to make choices that respect other forms of life, remaining faithful to their humanity. Therefore, what is needed is both (i) an ethics that does not only deal with relations between subjects and (ii) an ethics that reflects on the inevitability of the moral duty of responsibility, as an instance called upon to balance any excesses or misuse of freedom.

Jonas suggests that the cure to securing an ecological balance could start by asking the fundamental question Why this technology? Considering the fact that unrestrained industrial production does not only have positive effects on society but also affects the natural environment, it would be wise to reflect critically on the notion of value as regards technological development (WOLSING, 2013, p. 7).

Jonas believes that facing the challenges of our time is necessary to find an ontological foundation of human action in the world and, therefore, of the same ethics, because

[t]he claims to existence begins only with existence. But the ethic we seek is concerned with just this not-yet-existent, and its principle of responsibility must be independent of any idea of a right and therefore also of a reciprocity-so that within its framework the question jokingly invented for the situation: "What has the future ever done for me? Does it respect my rights?" (JONAS, 1984, p. 39).

In the narrow limit, Jonas wants to make us think of a kind of general theory of responsibility, where “the principle of responsibility must guide the ethical debate for technological civilization, given both the metaphysical foundation and the ontological derivation, as well as the evidence and consequences of the “modified nature of human action” (VALVERDE, 2018, p. 147). We can anticipate that Jonas identifies this foundation in a metaphysics of Being structured teleologically, of Aristotelian inspiration. The original affirmation of Being is, in fact, its tendency towards a purpose, and the first purpose of Being is to continue Being, therefore its self-preservation. As a result, “the first principle of an “ethic of futurity” does not itself lie within ethics as a doctrine of action (within which thereafter all duties toward future beings belong), but within metaphysics as a doctrine of being, of which the idea of Man is a part” (JONAS, 1984, p. 44).

To be is better than not to be, to have goals is better than not to have them, and Being asserts itself above all to continue to be. This superiority of being objective over lack of purpose, of Being over non-being, constitutes the fundamental ontological axiom that allows Jonas to interpret the intrinsic purpose of Being, not only as a fact but also as a value. If Being is preferable to non-being, this means that the purpose towards which being-in-itself tends, that is, its conservation, is also a value to be safeguarded. But what is this Being? According to Jonas, it is life itself that, despite the precariousness and uncertainty that distinguish it, manifests itself in gradually growing forms of freedom articulated in plants, animals, and human beings.

This is where the central issue of ethics proposed by Jonas resides, and from there, we can assess its theoretical pertinence and practical effectiveness. Far from avoiding and maintaining some kind of aversion or hostility to technological development, as an ethicist, Jonas intends to consider the risks that the new powers carry and the damage that they have been causing to the whole of life on the Planet, to the point of jeopardizing the very existence of humanity in the future (OLIVEIRA, 2022, p. 204).

To clarify the terms of the question, it is necessary to analyze the so-called philosophical biology, whose efforts are set out in *The Phenomenon of Life*. It is important to remember that this work presents a controversial objective given the inadequacy with which modern thought has faced the issue of Being and life, reducing the latter to dead matter. Nature and the universe would no longer be considered entities endowed with life since they would be just dead matter. It follows that the concept of life would be reducible to that of a

cybernetic model and the idea of human specificity (once synthesized in the concept of soul) would be neutralized and eliminated. Jonas believes these conclusions are deeply flawed. What he proposes to break the impasse is a phenomenological investigation based on the notion of a “living organism” (JONAS, 2001, p. 65), that is the only way in which it is possible to find and understand life.

We opened this volume with the proposition that the philosophy of life comprises the philosophy of organism and the philosophy of mind. At its end, and the light of what we have learned, we may add a further proposition, implied in that first one but setting a new task: a philosophy of mind comprises ethics – and through the continuity of mind with organism and organism with nature, ethics becomes part of the philosophy of nature (JONAS, 2001, p. 282).

The recovery of the specificity of life is just the first step of a more demanding path that, by addressing the question of man's position in the cosmos, wants to realize that the human being is, indeed, a living being and an organism among others, but at the same time endowed with an irreducible specificity. Vulnerability is what characterizes life in all its forms, from bacteria to humans. The relentless struggle for survival is what defines life in the first place. However, the latter also highlights an additional peculiarity, as

If permanence were the point, life should not have started out in the first place, for in no possible form can it match the durability of inorganic bodies. It is essentially a precarious and corruptible being, an adventure in mortality, obtaining from long-lasting matter on its terms – the short terms of the metabolizing organism – the borrowed, finite careers of individuals selves. Yet it is precisely through the briefly snatched self-feeling, doing, and suffering of *finite* individuals, with the pitch of awareness heightened by the very press of finitude, that the divine landscape bursts into color and the deity comes to experience itself. If, then, mortality is the very condition of the separate selfhood which in the instinct of self-preservation shows itself so highly prized throughout the organic world, and if the yield of this mortality is the food of eternity, it is unreasonable to demand its appointed executants, the self-affirming selves – immortality. The instinct of self-preservation indeed acknowledges this, for it implies the premise of extinction in its straining each time to ward it off for the nonce (JONAS, 2001, p. 276).

Therefore, the decisive question concerns the forms and realizations that life has produced. And what did we find out about it? We discovered that the sphere of the living being is riddled with qualitative differences and discontinuities, which emerge from the evolutionary character of the phenomenon of life.

Independently of the story of its genesis, the manifold of existing life presents itself as an ascending scale in which are placed the sophistications of form, the lure of sense and the spur of desire, the command of limb and powers to act, the reflection of consciousness and the reach for truth (JONAS, 2001, p. 2).

The fundamental freedom of the living being, which Jonas does not hesitate to define as the “presence of a purpose” (JONAS, 2001, p. 120), is articulated, therefore, in specific forms of freedom, differentiated according to the complexity of the organism that creates them use to survive. However, this means that the various means of survival, such as metabolism, perception, movement, feeling, imagination, representational capacity, language, and reflection, “are never to be judged as means merely, but also as qualities of the life to be preserved and therefore as aspects of the end” (JONAS, 2001, p. 106). How are these reflections declined about this specific form of life that is the human being? That's what we'll see now.

3 The human nature

In the previous moment, we tried to summarize, in general terms, Jonas's proposal for a philosophy of nature, putting it concerning his philosophical biology. This relationship could be summarized in the following thesis: “For the statement of scope express no less than the contention that the organic even in its lowest forms prefigures mind, and that mind even on its highest reaches remains part of the organic” (JONAS, 1984, p. 1). From now on, it is about addressing the question of the specificity of human nature.

First of all, we need to clarify that Jonas's decisive point is to carry out a resemantization of human specificity without being trapped in the meshes of psychophysical and ontological dualism. In this sense, his thinking inevitably comes up against Darwinian evolutionism. In addition to the precise criticisms directed at the philosophical aspects of Darwinism, its philosophical biology carefully analyzes evolutionary instances, including the one that postulates the animal's relevance to the human's understanding.

In fact, according to Jonas, the careful consideration of the animal allows the human being to shed light on its biological basis as endowed with spiritual implications. From the biological point of view, the animal and the human being share three basic characteristics, that

is, “the mediacy of animal existence is at the root of motility, perception, and emotion” (JONAS, 1984, p. 105). Overall, these specificities highlight a greater degree of autonomy and freedom than less complex forms of life. However, a more precise analysis of these same characteristics also reveals in what sense the animal and the man differ, although they remain in some relation of contiguity.

What consequences does the thematization of the specificity of human nature derive for ontology? Here, the foundations are laid for the attempt at an ontologically founded ethics thought from *The Phenomenon of Life*. It is not our intention here to provide a detailed account of such a proposal, just as we cannot discuss in detail the multiple resistances and misunderstandings raised by numerous criticisms. For our purpose, we believe it is enough to draw attention to some aspects of Jonas’s argument, showing its continuity with his philosophical biology.

Thus, we return to the eidetic, symbolic, and reflective human freedom analyzed in *The Phenomenon of Life*. It is significant that, from the internal dynamics of his work, Jonas does not hesitate to interpret the peculiarity of human freedom in ethical terms, since the image not only accompanies every thought and human activity showing what is there, but in some way, it also opens up to what does not yet exist, indicating how it should be. In particular, Jonas refers to the global image of man, which in the evolving cosmos marks the advent of the “true man” (JONAS, 1984, p. 185) and which becomes reflexively relevant when each one questions its place and part of the “scheme of things” (JONAS, 1984, p. 61). The human being in its full sense arises

[when] the painter of the bull and even of its hunter turns to concerning himself with the unpaintable image of his own conduct and the state of his self. Over the distance of this wondering, searching, and comparing perception there is constituted the new entity, “I”. This is of all the greatest venture in mediacy and objectification. We use the term “image” deliberately, Man models, experiences, and judges his own inner state and outward conduct after the image of what is man’s. Willingly or not he lives the idea of man – in agreement or in conflict, in acceptance or in defiance, in compliance or in repudiation, with good or with bad conscience. The image of man never leaves him, however much he may wish at times to revert to the bliss of animality. To be created in the image of God means to have to live with the image of man (JONAS, 1984, p. 185-186).

We thus arrive at a fundamental junction of Jonas's reflection: to account for the specificity of human nature without falling back into dualistic solutions, on the one hand, or

merely immanent-monist solutions, on the other. This objective can be reached precisely through a reflection on the image of man.

Jonas begins by reiterating how the image of man is subject to continuous reappropriations and transformations. However, in the historically existing image of man, it is possible to glimpse a further and essential dimension, which ends up coinciding with freedom, as endowed with ontological and not just phenomenal relevance. However, the search for the essence of man must go through the encounter between man and being. In such encounters, this essence not only appears but realizes itself by deciding each time in them.

The faculty of encounter itself is, however, the fundamental essence of man: this is, therefore, freedom and its seat is history, which in turn is only possible through this fundamental transhistorical essence of the subject. Every image of reality that emerges from a historical encounter includes an image of himself and according to this image man exists, provided that the image is his truth. The condition inherent to the man of the possibility of history – precisely his freedom – is not, however, itself historical, but ontological; and he becomes, if discovered, the central fact of evidence on which every doctrine of being must rest.

As Burgui rightly points out, it is impossible to summarize “the place of the human being” in such a short space. But, focusing on Jonas’ theses, it should be noted that the human being is the apex of an unconscious volitional process that has become self-conscious, it is the personification of life capable of being-in-itself and being-for-itself. It is, therefore, more than a good in itself. And the question now is not, in Jonas’s opinion, whether this process is the result of Divine Will or chance. The issue is the recognition of the unquestionable intrinsic value of the human being and its current responsibility to allow humanity to continue, in the face of the threats that hang over its future (BURGUI, 2015).

In other words, every changing image of the man that appears on the historical scene of the world lives in a relationship with an essential and transhistorical image of man as its condition of possibility. Jonas’ objective is to rescue the meaning of this essence that lives in contingent conditions, of this universal, transhistorical, and transcendent dimension that is lived in particular, historical and immanent conditions, and of the value correlated to this dimension that is fully experienced in Space and Time. At the origin of the ethics proposed by Jonas is, therefore, the desire to strengthen the relationship between human beings and their

essence. This is even more urgent at a time like the current one when the massive and uncritical use of technology runs the risk of compromising this fundamental relationship.

Human reflective and eidetic freedom must therefore ensure that the essence of man continues to manifest and flourish. And, in this sense, the most urgent task undoubtedly concerns philosophy, as that knowledge whose possibility demands and the “actuality testifies to, a “transcendence” in man himself as the condition for it” (JONAS, 2004, p. 232). It is because of this freedom beyond necessity that human beings can question themselves about their ends without entirely delegating the question of good to the “self-regulating mechanics of science-technical interaction” (JONAS, 2004, p. 231). Indeed, for Jonas, the specificity of man is such that the reflective and eidetic exercise of freedom is characterized as subject to responsibility.

4 Environmental Education: the principle of responsibility

Hans Jonas’ thought, in this perspective, enables a reflection on a new ethics centered on responsibility, that is, on the rescue of the awareness of the world as a collective space where all living and non-living beings are related and interconnected. Thus, it is necessary to break with an anthropocentric rationality that separates the whole from the parts and the parts from the whole, and, mainly, with technology at the service of a neoliberal capitalist economic system, based on exploitation, domination, the ethics of commerce, and body control. One can see that the ethics of responsibility arises in the face of the brutalities that have been revealed in the 20th century, or rather when a series of new events that threaten not only human life but also the existence of the planet, breaks out.

Thinking about the future of humanity, especially after World War II, becomes the central theme of the various areas of knowledge that defend the world as, according to Dickmann and Carneiro (2021, p. 17), “the place of life, which has been destroyed in the goods of nature and clamoring for changes in the actions of human beings. The defense of nature is a guarantee of the very human existence on earth”. The actions of human beings about the man-nature relationship have been cooperating with a crisis of not belonging to the environment and, specifically, of the awareness of this common space as the natural home of a multiplicity of life.

For Hans Jonas (1984) it is important to understand the modern period and, at the same time, the irrational use of technique by technique, since, in this context, the human-nature relationship changes and, thus, the need for a new reflection on the future of humanity arises. Concern and insecurity about the conservation of life on Earth erupt. Boff (2003, p. 51), reflecting on Hans Jonas' concept of responsibility, affirms that it means "the ability to give effective answers (responsum in Latin, from which comes responsibility) to the problems of today's complex reality". Therefore, the ethics of responsibility is concretized in a new way for human beings to act in and with the world.

The Earth already presents, as mentioned above, symptoms of exhaustion. In other words, it has been crying out for care and a transformation in how human beings act in recent years. Educating about the care of nature represents a collective concern for the future. For this reason, with the destruction of the planet, it is necessary to think about an educational practice focused on care and responsibility for the Earth, that is, an Environmental Education that, according to Dickmann and Carneiro,

should not be understood as an isolated subject in the school curriculum, but understood as an educational dimension to be worked transversally and interdisciplinary. Moreover, Environmental Education is not only a set of practices in defense of the environment, but rather, the possibility of building a socio-environmental praxis, comprising everyone involved in a new attitude of ethical, social, cultural, economic, historical, and ecological scope (DICKMANN; CARNEIRO, 2021, p. 21).

Educating for the care of the planet's lives implies an "ecocentric" and biocentric rationality and, in the case of the Southern Countries, an Amazon-centric one, or rather, a way of thinking and feeling the Earth in the light of the wisdom of the original peoples. In this perspective, according to Boff (2009, p. 105), "the choice is ours: either we form a global alliance to care for the Earth and each other, or we risk our destruction and the diversity of life". Thus, we realize the urgency of Environmental Education as a transformative practice and are committed to the conservation of the world so that new generations can marvel at the great orchestra that is the Earth.

This educational practice enables a type of learning that recognizes the importance of valuing the various human relationships and the rescue of the human-nature link as the principle of an ethic centered on responsibility towards the other and the environment. In this

sense, it is understood that Hans Jonas' concern and thought open paths for environmental education, or rather, for an “ecocentric” educational praxis.

5 Conclude remarks

In Hans Jonas' thinking, specifically when it comes to his principle of responsibility, there is a relevant aspect in educational terms, namely: the moral disposition to feel responsible for our actions and consequences. An ethics of responsibility that broadens its horizon not only to predictable consequences but also, and perhaps mainly, to unpredictable ones. The ethics of responsibility, therefore, implies recognizing the limits of human actions and knowledge. The subject's humility in recognizing that he is ancestrally connected to nature thus becomes a moral feeling, because awareness of the limits of human knowledge, compared to the power of technology, imposes ethical restrictions on action.

The possibility of expanding the moral sphere, including non-human nature, implies for Education and, particularly, for Environmental Education, the need to discuss the values that guide it, given that it starts to aim not only at more balanced and fair relationships between men but between man and non-human nature (SOUZA; CAVALARI, 2017, p. 12).

In this sense, to trace pedagogically grounded formative paths, a theory of environmental education must assume the task of finding and evaluating the positive and negative implications of the different ethical-ecological approaches. It is risky to give up a rational critique of ethical issues. Ecological thinking that accepts an approach that is not just intellectualistic in ethical education cannot fail to assess the risk associated with renouncing any rational and critical foundation of ethics. The protection of nature would, in practice, be the protection of ourselves.

It is questionable to believe that moral action should address only what the person feels is part of him/herself, it would be a form of selfishness and not altruism. Caring is also motivated by the awareness of alterity and the distance between us and nature. Nature not only evolves based on non-human projects but is so complex that it excludes human beings from understanding the logic based on which natural processes work. So, not an extended sense, not a sense of strangeness, but a feeling of empathetic sharing, of vital

interconnectedness about reciprocal differences. A sense of participation with other forms of life that dialogues with the sense of an insurmountable strangeness.

Educating to think becomes imperative not only for environmental education but for the entire educational process. Educating to think is not an intellectual exercise but a practice situated in the contradictions of life to promote participatory and conscious citizenship. For this reason, education should aim at developing a love of politics. In what sense? In the sense of civil commitment that translates into actions to be undertaken and into discourses capable of exploring other ways of inhabiting the earth and the world. How? Ecological thinking requires a kind of look that goes beyond borders. Therefore, environmental education theory must be nourished with ecological thinking in its various configurations (scientific, political, ethical, philosophical, and, above all, aesthetic) breaking the tendency towards disciplinary compartmentalization that, in the name of specialization, dissects teaching. Building a new culture requires an integrated and collaborative approach that takes dialogue as a parameter for action. The same goes for the pedagogical discourse.

References

ADORNO, T.; HORKHEIMER, M. **Dialectic of Enlightenment**: philosophical fragments. Translated by Edmund Jephcott. California: Stanford University Press, 2002.

BOFF, L. **Ética e moral**: a busca dos fundamentos. Petrópolis, RJ: Vozes, 2003.

BOFF, L. **A opção-Terra**: a solução para a Terra não cai do céu. Rio de Janeiro: Record, 2009.

BURGUI, M. Hans Jonas: conservación de la Naturaleza, conservación de la Vida. **Cuadernos de bioética**: revista oficial de la Asociación Española de Bioética y Ética Médica. v. 26, n. 87, p. 253-266, maio/ago. 2015.

DICKMANN, I.; CARNEIRO, S. M. M. **Educação Ambiental Freiriana**. Chapecó: Livrologia, 2021,

FRANCIS, P. **The encyclical letter ‘Laudato Si’ on care for our common home**, 2015.

JONAS, H. **The imperative of responsibility**: in search of an Ethics for the Technological Age. Translated by Hans Jonas with collaboration David Herr. Chicago: The University of Chicago Press, 1984.

JONAS, H. **The Phenomenon of Life**: Toward a Philosophical Biology. Illinois: Northwestern University Press, 2001.

KOPENAWA, D.; ALBERT, B. **The falling sky**: words of a Yanomami shaman. Translated by Nicholas Elliott and Alison Dundy. Belknap Press of Harvard University Press, 2013.

MORIN, E. **Introdução ao Pensamento Complexo**. 5. ed. Lisboa: Instituto Piaget, 2002.

OLIVEIRA, J. R. de. Para uma *ethical turn* da tecnologia: por que Hans Jonas não é um tecnofóbico. **Trans/Form/Ação**: Revista de Filosofia, [S. l.], v. 45, n. 2, p. 191-206, 2022. DOI: 10.1590/0101-3173.2022.v45n2.p191. Acesso em: 31.04.2023

SOUZA, H. A. L.; CAVALARI, R. M. F. Relação ética entre sociedade e natureza: contribuições da obra “O princípio responsabilidade”, de Hans Jonas, para a educação ambiental. *In*: IX EPEA – ENCONTRO PESQUISA EM EDUCAÇÃO AMBIENTAL, 2017, Juiz de Fora. **Anais[...]**, 2017. p. 1-12.

VALVERDE, A. Hans Jonas e o princípio responsabilidade. **Revista Dissertatio de Filosofia**, v. 1, n. 12, p. 137-150, 2018.

WOLSING, P. Responsibility to Nature? Hans Jonas and Environmental Ethics. **Nordicum-Mediterraneum**, v. 8, n. 3, p. 1-12, mar. 2013.

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